



## PYROGENESIS ANNOUNCES PUREVAP™ PROCESS BREAKTHROUGH

**MONTREAL, QUEBEC--(Marketwired - April 19, 2016) - PyroGenesis Canada Inc.** (<http://pyrogenesis.com>) (TSX-V: PYR) (OTCQB: PYRNF), a TSX Venture clean-tech company (the "Company" or "PyroGenesis") that designs, develops, manufactures and commercializes plasma waste-to-energy systems and plasma torch products, announces today that the early test results of its PUREVAP™ Quartz Vaporization Reactor ("PUREVAP™") demonstrated that it can transform high purity quartz into silicon metal.

As previously noted, PUREVAP™ is a proprietary process that uses a plasma arc within a vacuum furnace to produce high purity, metallurgical grade silicon (MG-Si), solar grade silicon (UMG Si) and polysilicon from quartz in just one step.

In September 2015, PyroGenesis announced that it had filed for a provisional patent for the PUREVAP™ process, which it noted was able to produce silicon, at a lower cost, while generating less CO<sub>2</sub> emissions than current processes.

"We are very pleased by these early results," said Pierre Carabin, Director of Engineering of PyroGenesis. "Our ability to demonstrate that our process can produce metal at such an early stage is encouraging and is the first step towards the Company's objective to produce a silicon product of solar grade purity."

The silicon metal, solar grade silicon metal and electronic grade silicon metal markets combined formed a US\$12B per year industry in 2014. Metallurgical grade silicon metal world consumption topped 2.25 million tonnes in 2014, exceeding US\$6B in sales. Propelled by increased demand for photovoltaic (PV) solar panels systems, metallurgical grade silicon metal consumption is expected to grow by over six percent (6%) per annum<sup>1</sup>.

In 2014, nearly ten percent (10%) of the global metallurgical grade silicon metal produced was further refined into solar grade silicon metal and polysilicon, worth an additional US\$6B. GTM Research estimates that installed PV demand will grow 15 % - 23 % annually and access to solar grade Si will be a limiting factor in PV growth<sup>2</sup>.

"PyroGenesis' PUREVAP™ is a disruptive process that has the ability to revolutionize the way the mining & metallurgy industry produces metals," said P. Peter Pascali, President and CEO of PyroGenesis. "PyroGenesis has once again demonstrated its ability to use plasma as a solution in industries that have not yet had the luxury to consider its many benefits. We look forward to the final results of our testing program and advancing to the pilot stage with Uragold."

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<sup>1</sup> Roskill: Silicon and Ferrosilicon: Global Industry Markets & Outlook report (2014)

<sup>2</sup> PV demand and GTM Research October 2015; RECSilicon 2015 presentation

## About PyroGenesis Canada Inc.

PyroGenesis Canada Inc., a TSX Venture 50<sup>®</sup> clean-tech company, is the world leader in the design, development, manufacture and commercialization of advanced plasma processes. We provide engineering and manufacturing expertise, cutting-edge contract research, as well as turnkey process equipment packages to the defense, metallurgical, mining, advanced materials (including 3D printing), oil & gas, and environmental industries. With a team of experienced engineers, scientists and technicians working out of our Montreal office and our 3,800 m<sup>2</sup> manufacturing facility, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. Our core competencies allow PyroGenesis to lead the way in providing innovative plasma torches, plasma waste processes, high-temperature metallurgical processes, and engineering services to the global marketplace. Our operations are ISO 9001:2008 certified, and have been since 1997. PyroGenesis is a publicly-traded Canadian company on the TSX Venture Exchange (Ticker Symbol: PYR) and on the OTCQB Marketplace (Ticker Symbol: PYRNF). For more information, please visit [www.pyrogenesis.com](http://www.pyrogenesis.com)

*This press release contains certain forward-looking statements, including, without limitation, statements containing the words "may", "plan", "will", "estimate", "continue", "anticipate", "intend", "expect", "in the process" and other similar expressions which constitute "forward-looking information" within the meaning of applicable securities laws. Forward-looking statements reflect the Company's current expectation and assumptions, and are subject to a number of risks and uncertainties that could cause actual results to differ materially from those anticipated. These forward-looking statements involve risks and uncertainties including, but not limited to, our expectations regarding the acceptance of our products by the market, our strategy to develop new products and enhance the capabilities of existing products, our strategy with respect to research and development, the impact of competitive products and pricing, new product development, and uncertainties related to the regulatory approval process. Such statements reflect the current views of the Company with respect to future events and are subject to certain risks and uncertainties and other risks detailed from time-to-time in the Company's ongoing filings with the securities regulatory authorities, which filings can be found at [www.sedar.com](http://www.sedar.com), or at [www.otcmarkets.com](http://www.otcmarkets.com). Actual results, events, and performance may differ materially. Readers are cautioned not to place undue reliance on these forward-looking statements. The Company undertakes no obligation to publicly update or revise any forward-looking statements either as a result of new information, future events or otherwise, except as required by applicable securities laws.*

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